

Fig. 1A

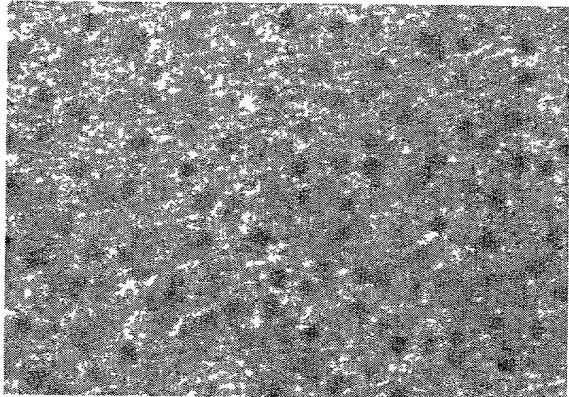


Fig. 1B

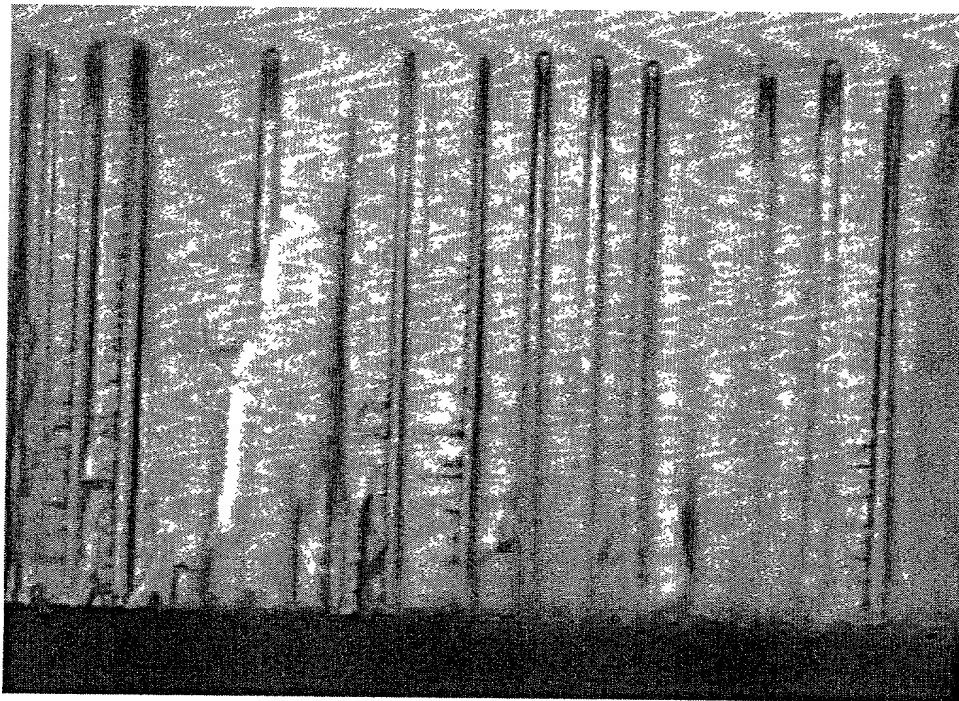


Fig. 2

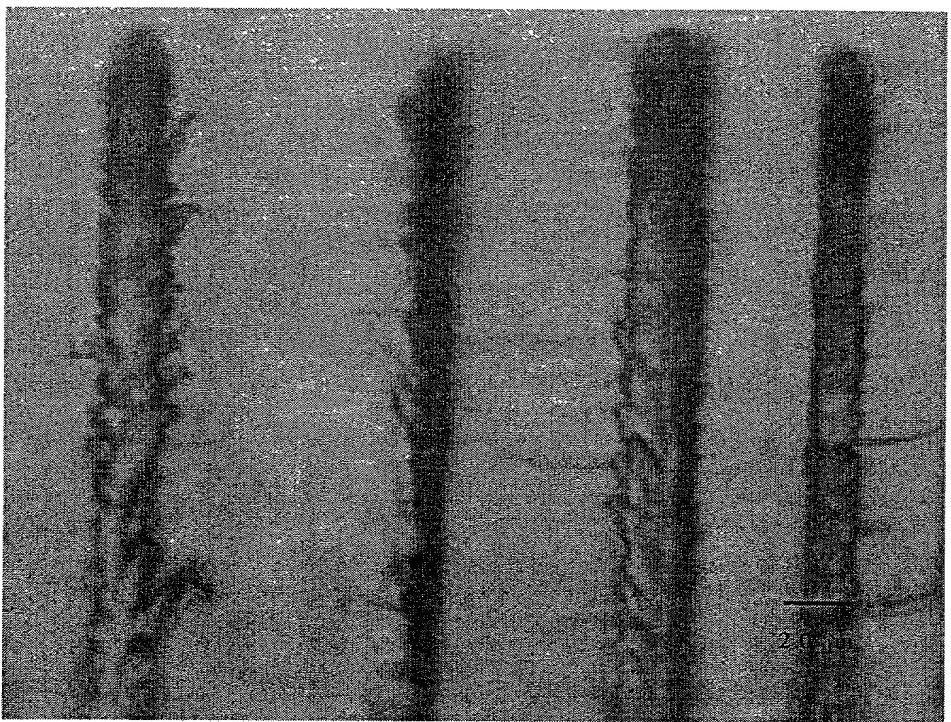


Fig. 3

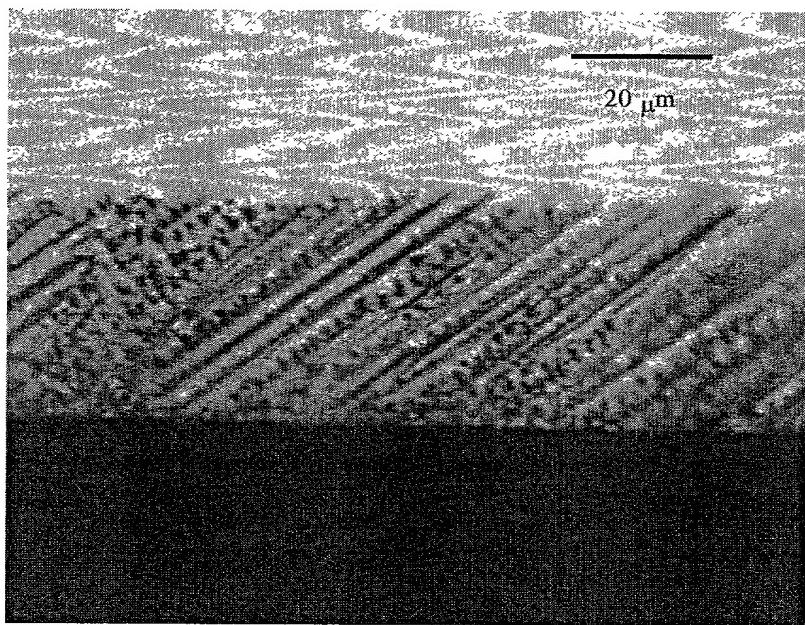


Fig. 4

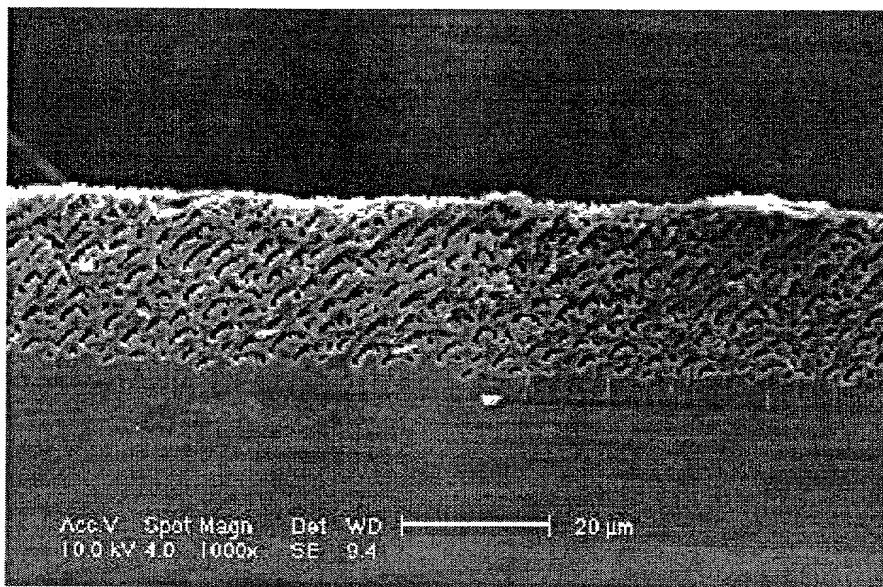


Fig. 5

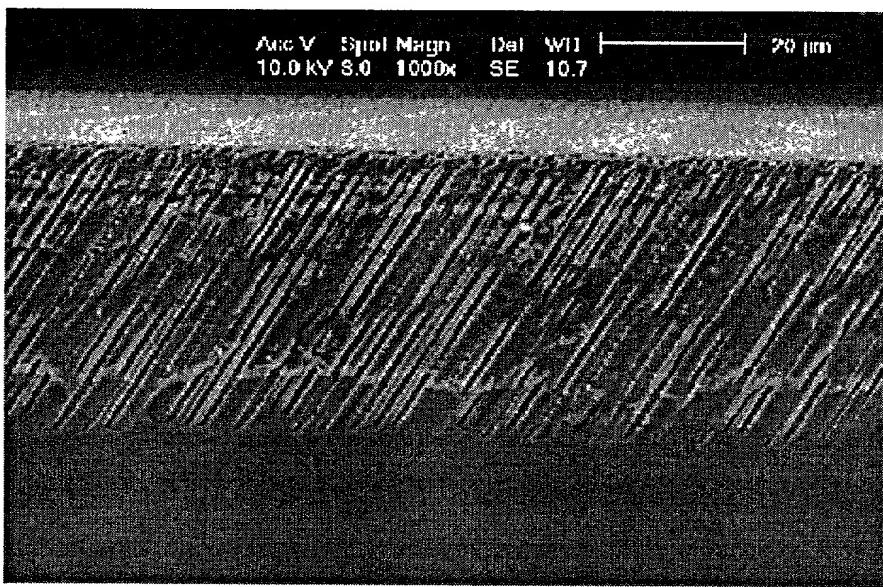
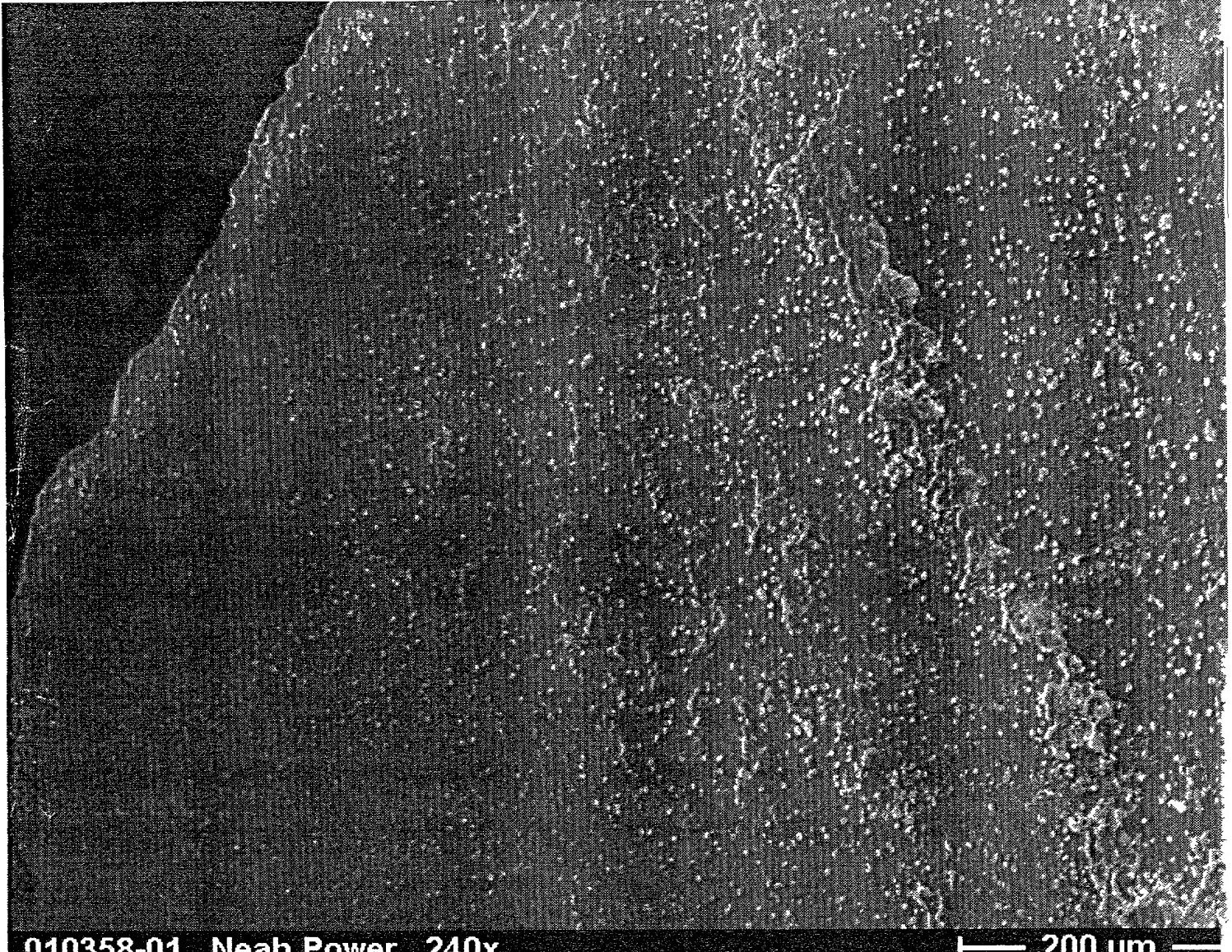


Fig. 6

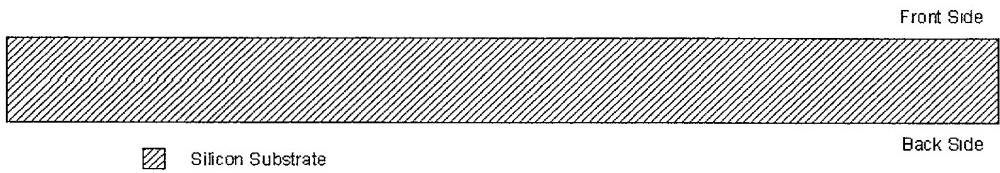


010358-01 Neah Power 240x

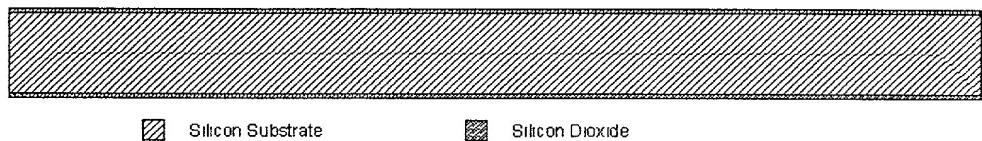
— 200  $\mu\text{m}$  —

0  
100

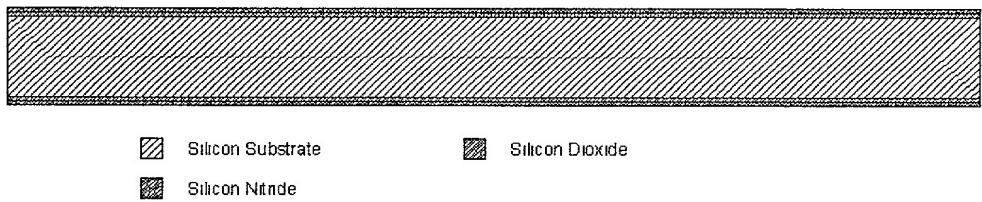
Fig. 7



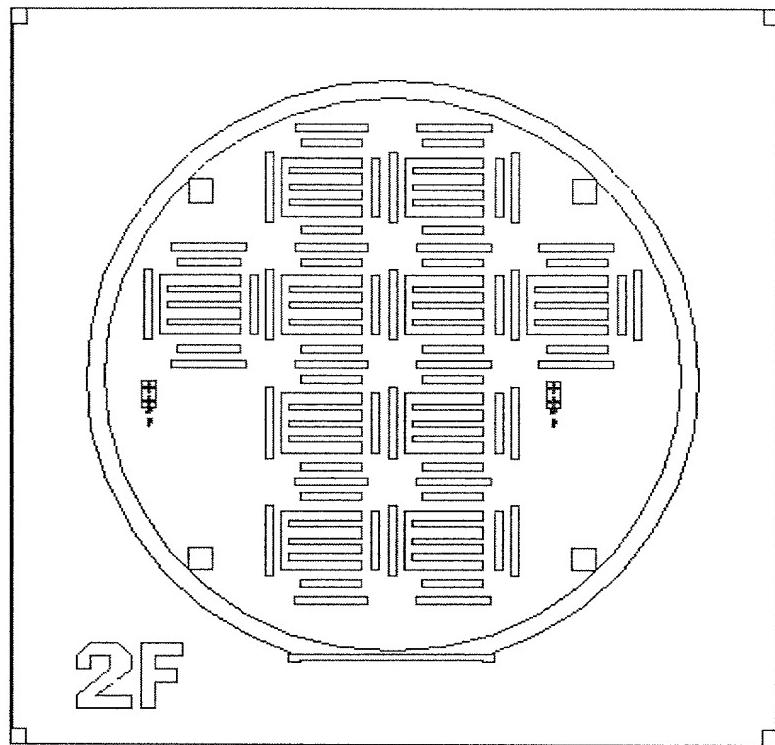
*Figure 8*



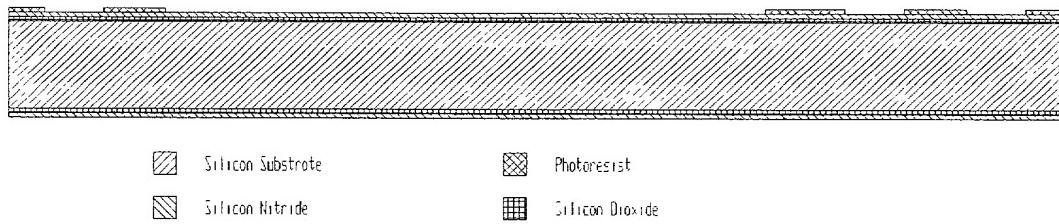
*Figure 9*



*Figure 10*

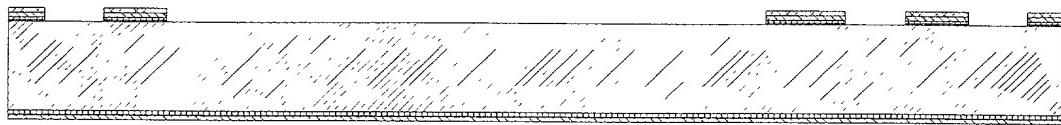


*Figure 11A*



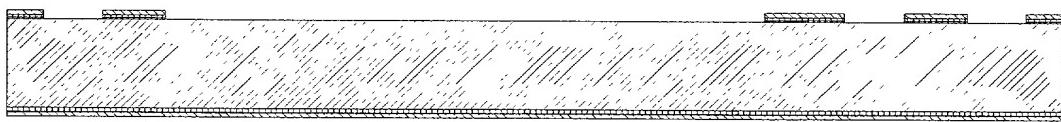
■ Silicon Substrate  
■ Silicon Nitride  
■ Photoresist  
■ Silicon Dioxide

*Figure 11B*



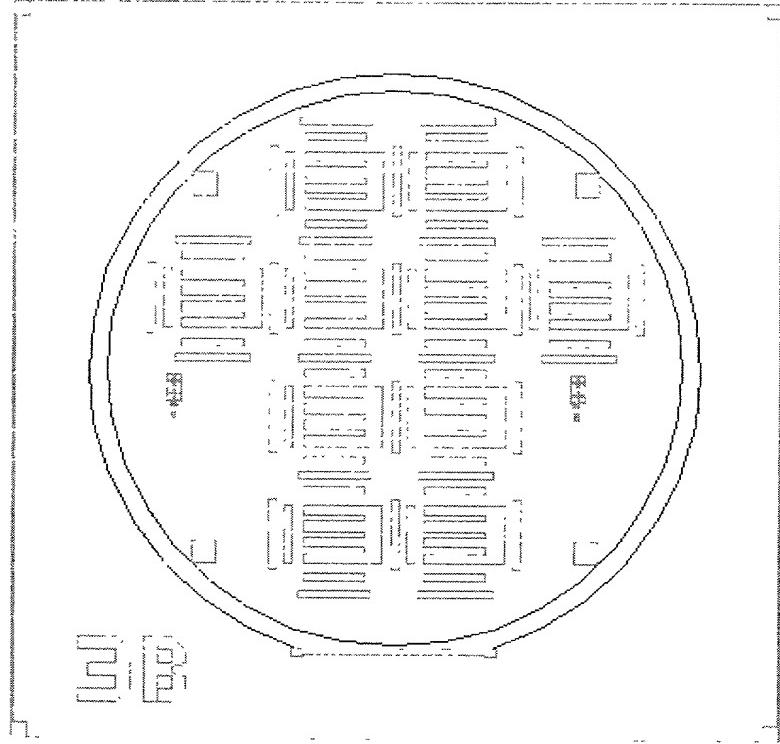
 Silicon Substrate       Photoresist  
 Silicon Nitride       Silicon Dioxide

## Figure 12

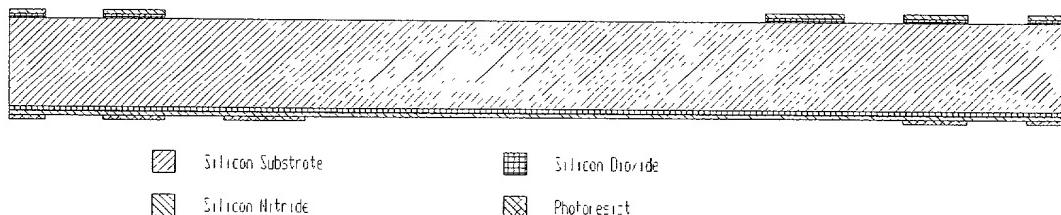


 Silicon Substrate       Silicon Dioxide  
 Silicon Nitride

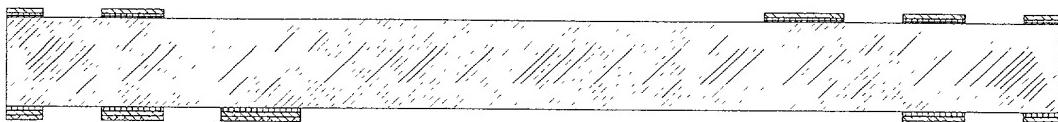
*Figure 13*



***Figure 14A***



***Figure 14B***



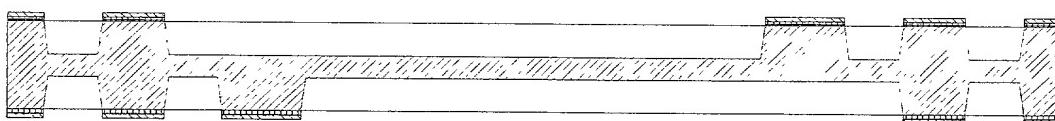
■ Silicon Substrate  
■ Silicon Dioxide  
■ Silicon Nitride  
■ Photoresist

*Figure 15*



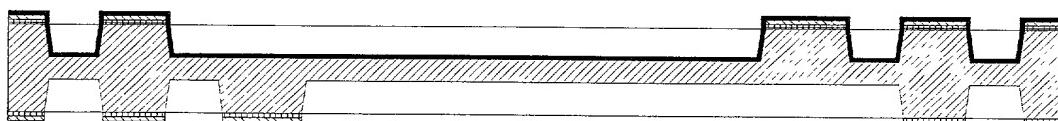
■ Silicon Substrate  
■ Silicon Dioxide  
■ Silicon Nitride

*Figure 16*



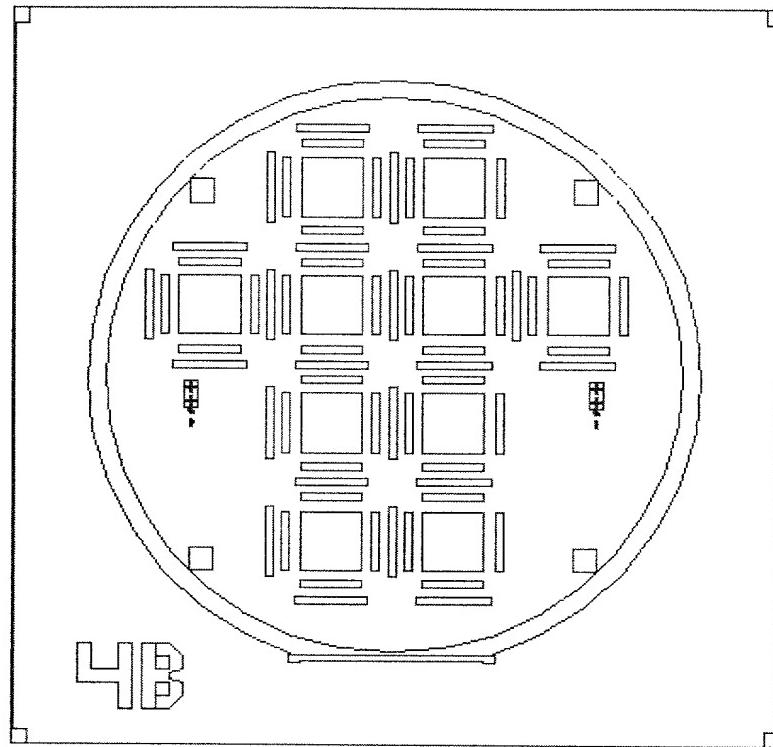
■ Silicon Substrate  
■ Silicon Dioxide  
■ Silicon Nitride  
□ Flow Channel

*Figure 17*

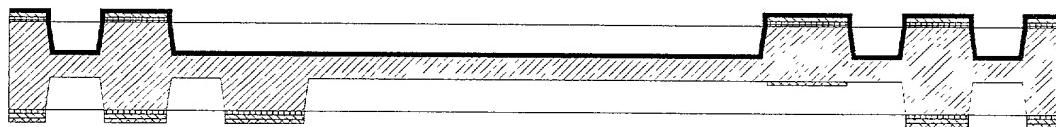


■ Silicon Substrate  
■ Silicon Dioxide  
■ Silicon Nitride  
■ Ti-Au  
□ Flow Channel

*Figure 18*

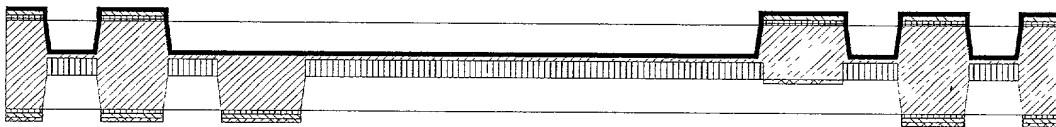


*Figure 19A*



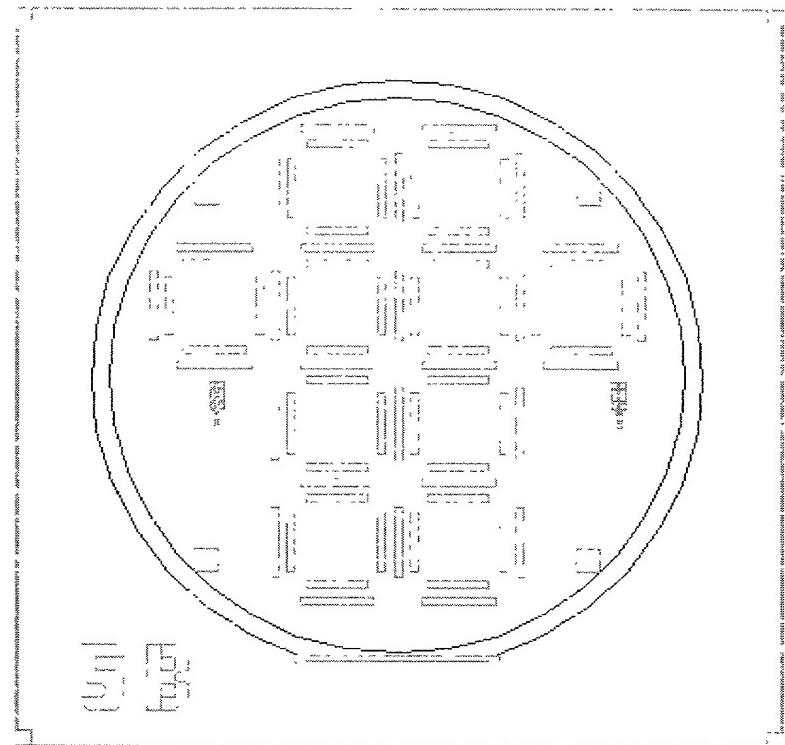
■	Silicon Substrate	■	Silicon Dioxide
▨	Silicon Nitride	□	Flow Channel
■	Ti-Au	▨	Photoresist

*Figure 19B*

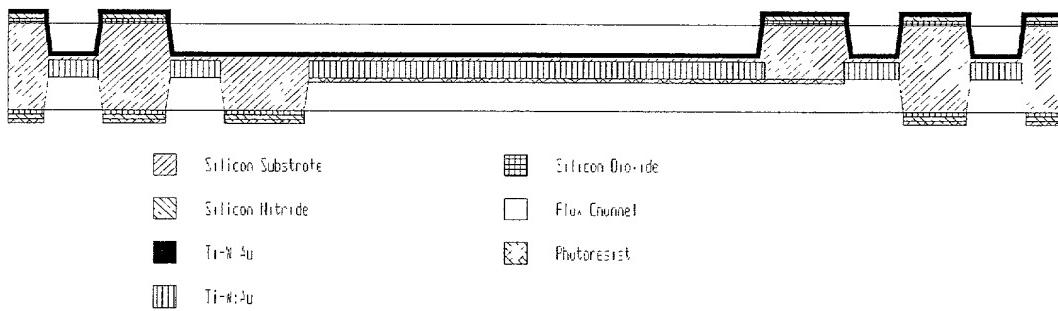


▨	Silicon Substrate	▨	Silicon Dioxide
▨	Silicon Nitride	□	Flow Channel
■	Ti-Au	▨	Photoresist
■■■	Ti-Au		

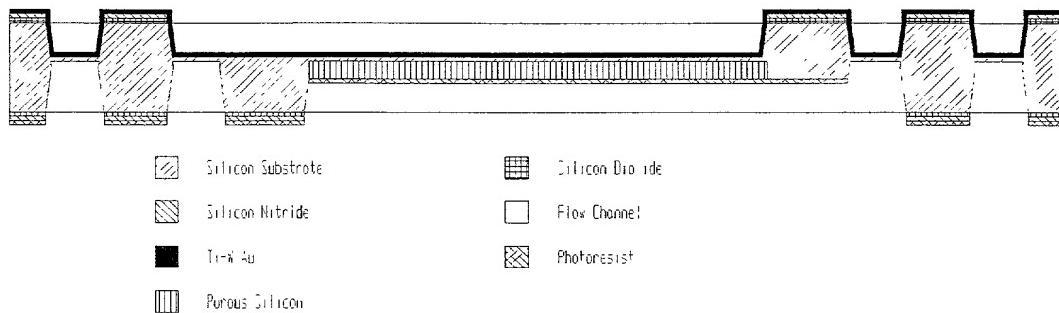
*Figure 20*



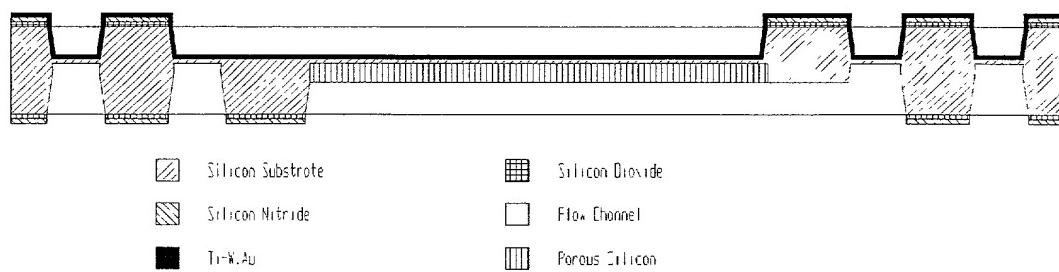
*Figure 21A*



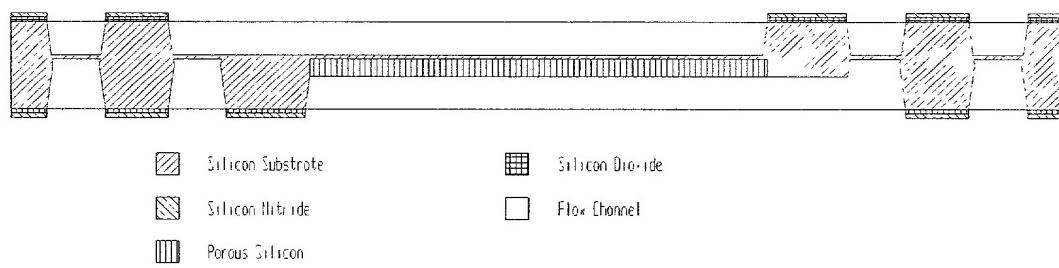
*Figure 21B*



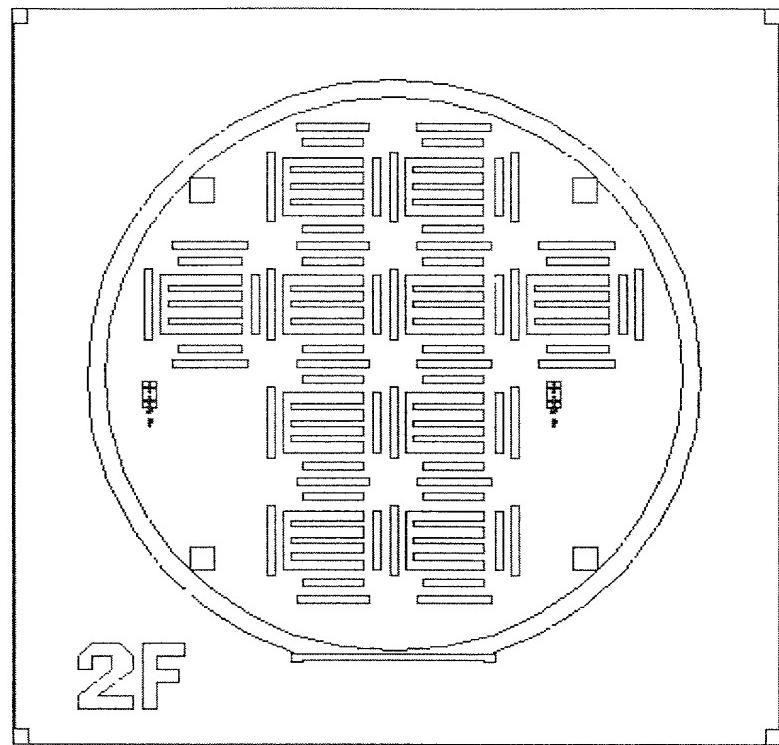
*Figure 22*



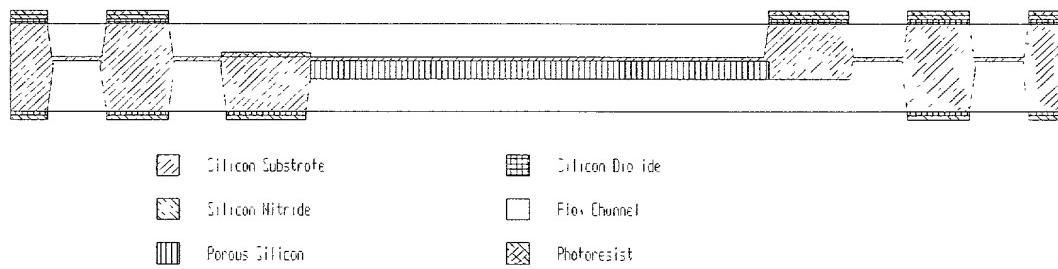
*Figure 23*



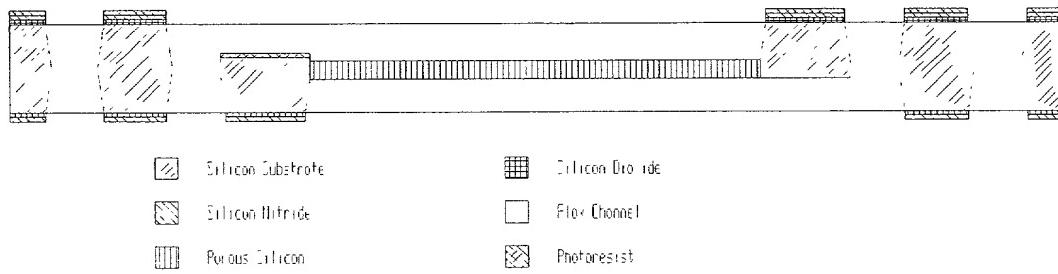
*Figure 24*



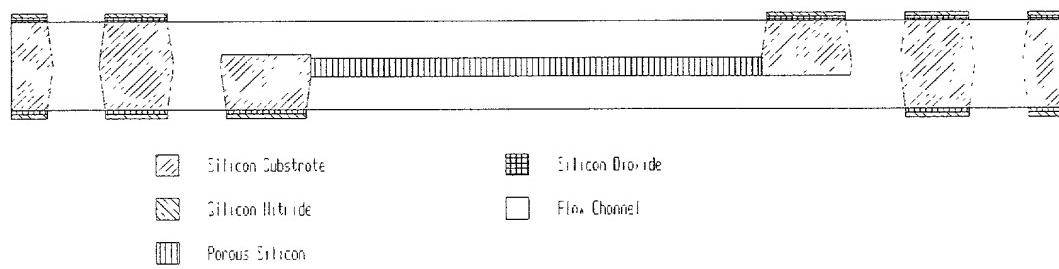
*Figure 25A*



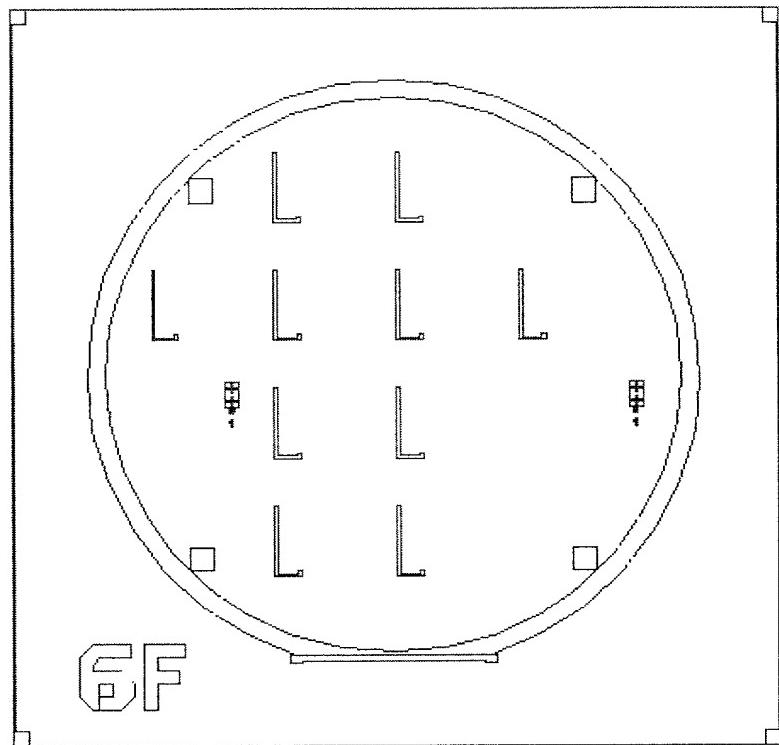
*Figure 25B*



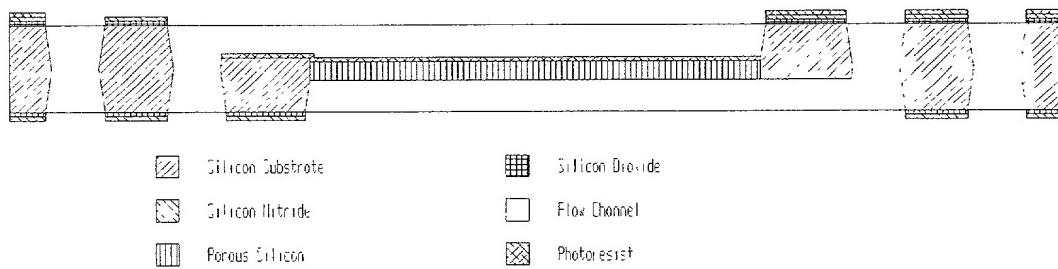
*Figure 26*



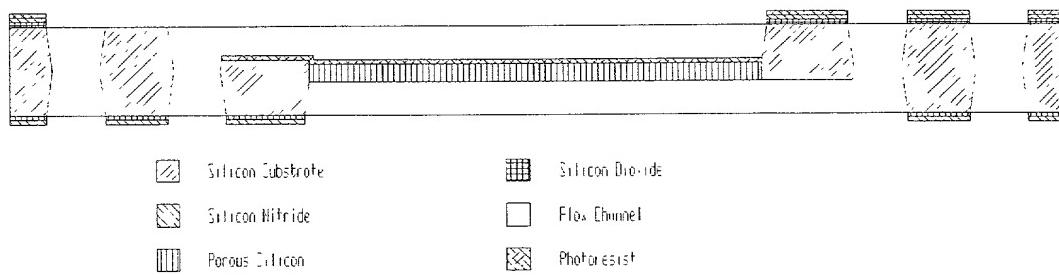
*Figure 24*



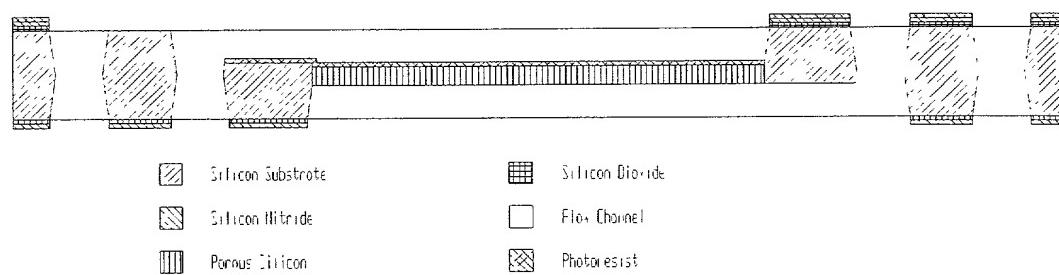
*Figure 28A*



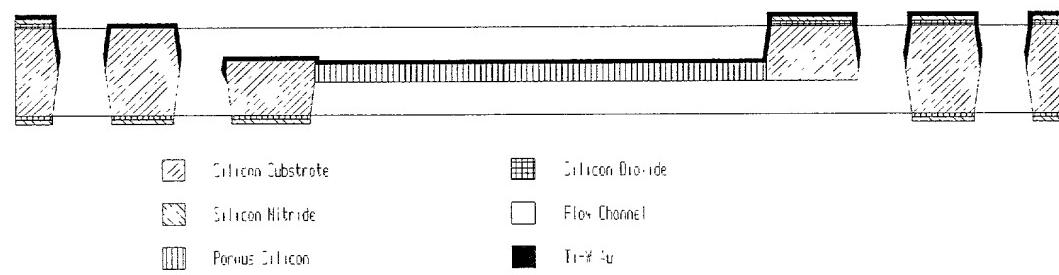
*Figure 28B*



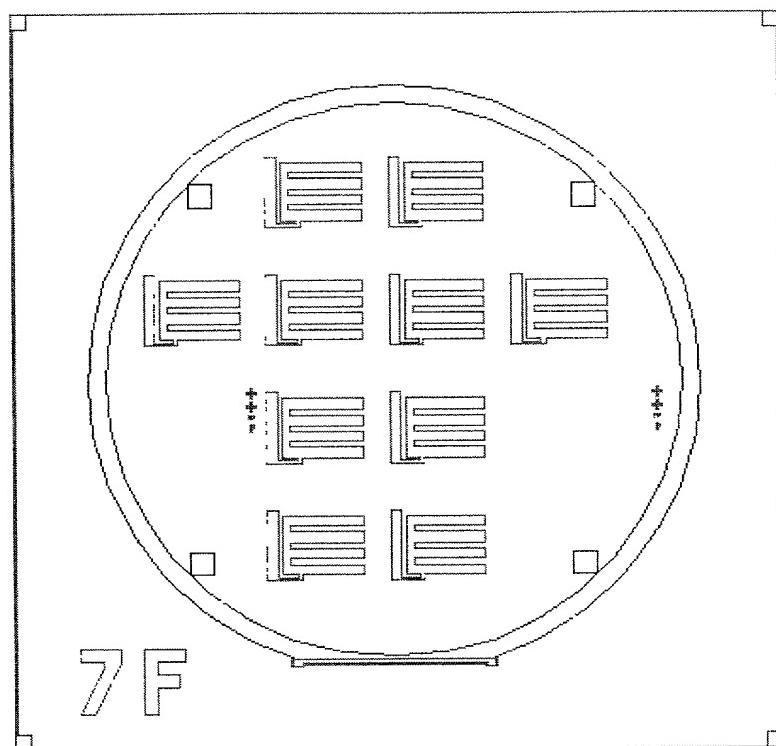
*Figure 29*



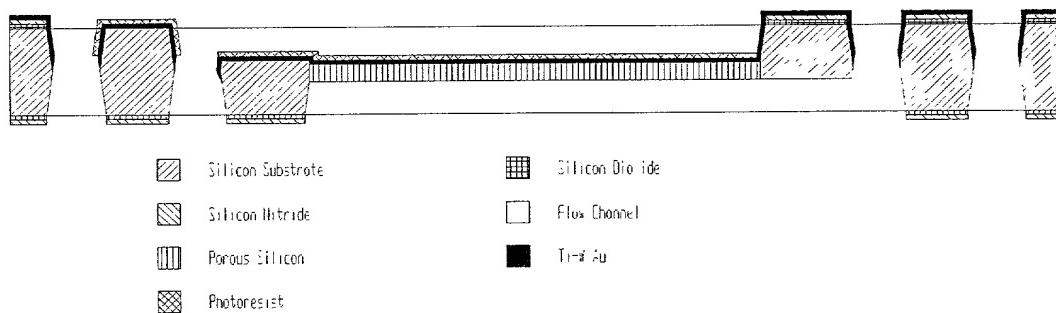
*Figure 30*



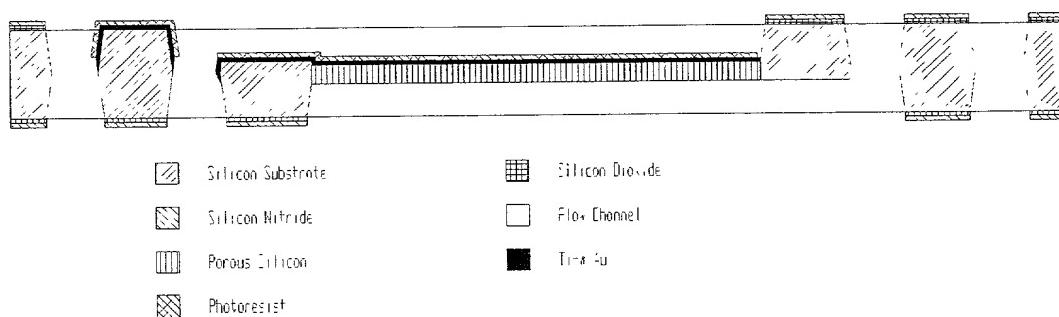
*Figure 31*



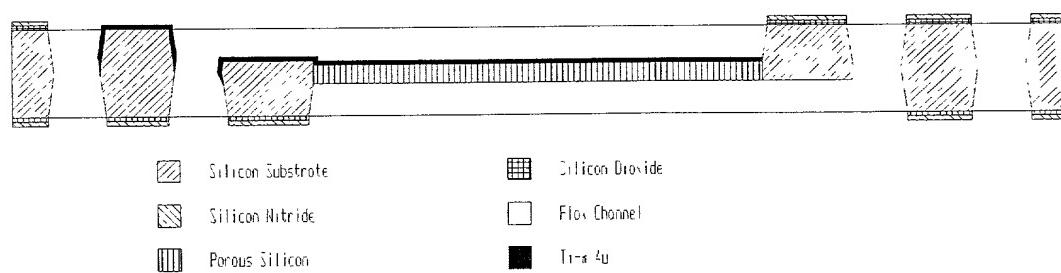
*Figure 32A*



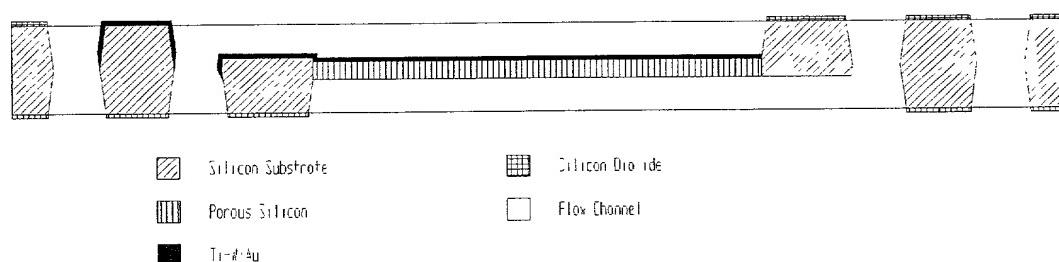
*Figure 32B*



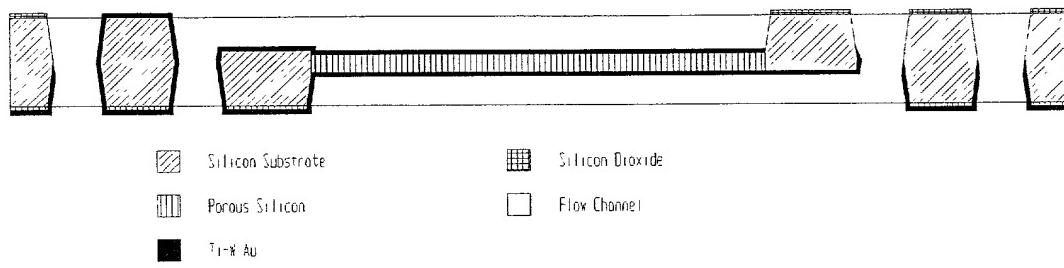
*Figure 33*



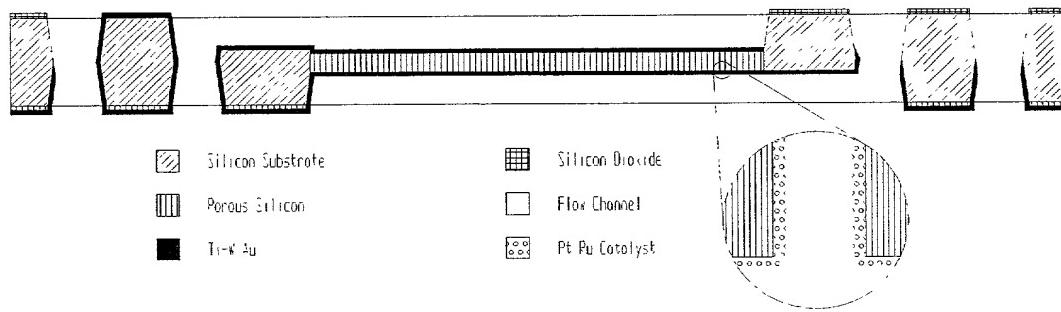
*Figure 34*



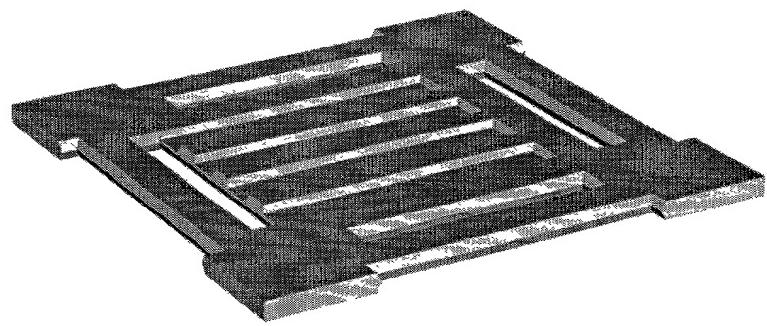
*Figure 35*



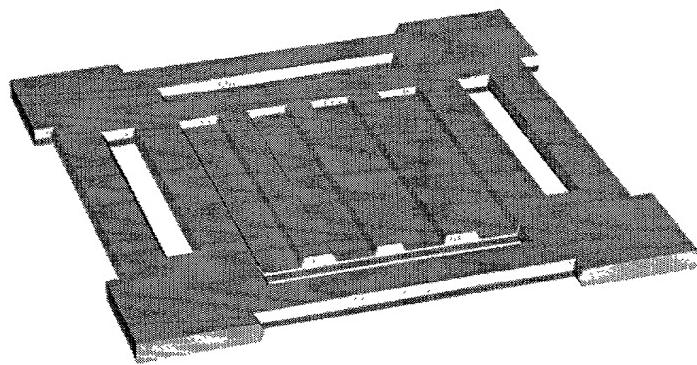
*Figure 36*



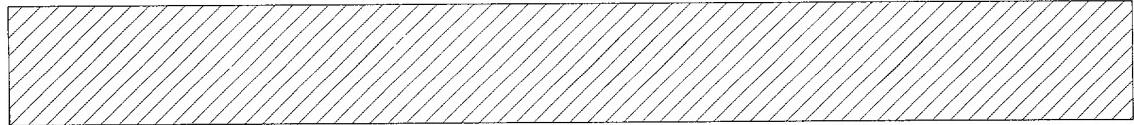
*Figure 37*



*Figure 38A*

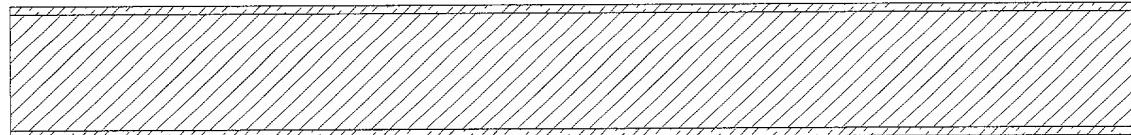


*Figure 38B*



□ Silicon Substrate

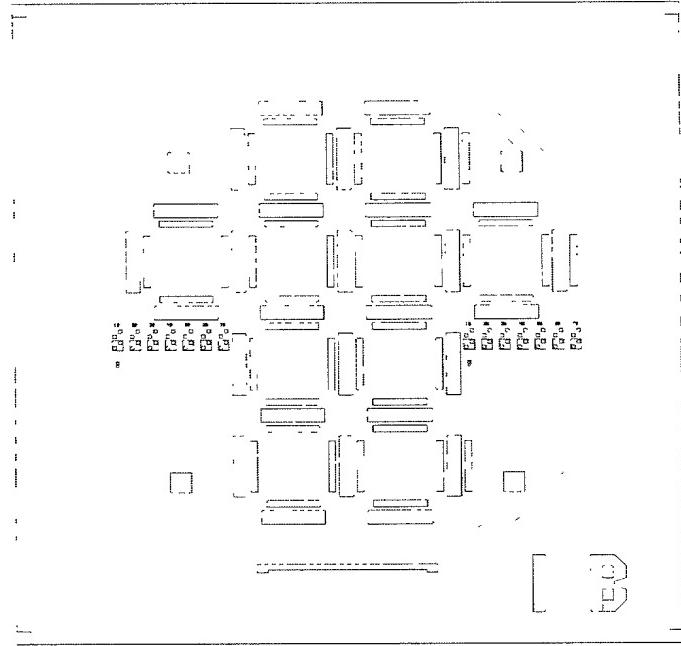
***Figure 39***



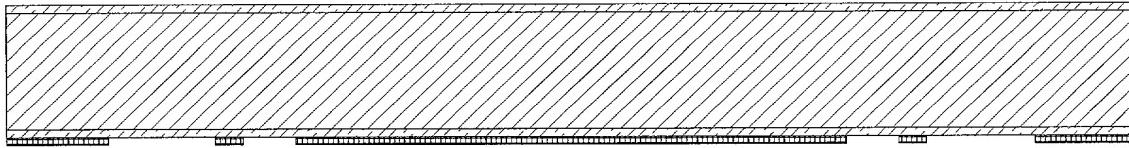
□ Silicon Substrate

□ Silicon Nitride

***Figure 40***



*Figure 41A*

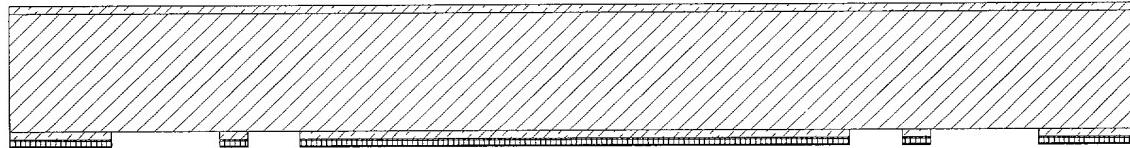


 Silicon Substrate

 Silicon Nitride

## Photo Resists

*Figure* 41B

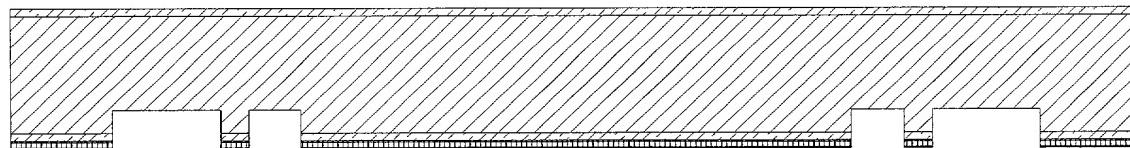


■ Silicon Substrate

■ Silicon Nitride

■ Photo Resists

***Figure 42***

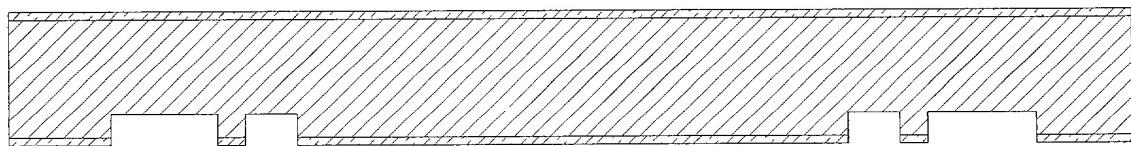


■ Silicon Substrate

■ Silicon Nitride

■ Photo Resists

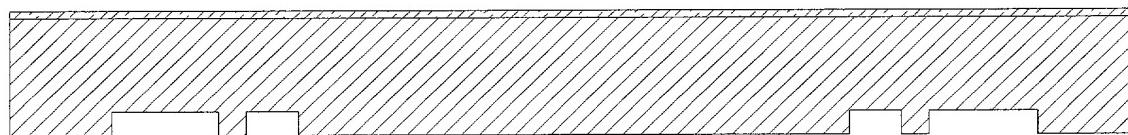
***Figure 43***



□ Silicon Substrate

▨ Silicon Nitride

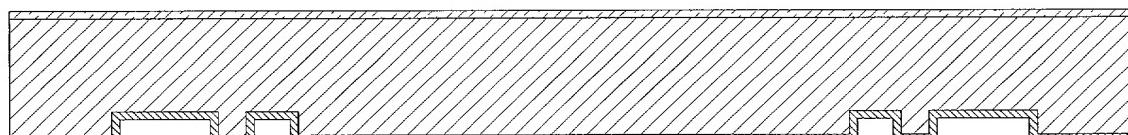
***Figure 44***



▨ Silicon Substrate

□ Silicon Nitride

***Figure 45***

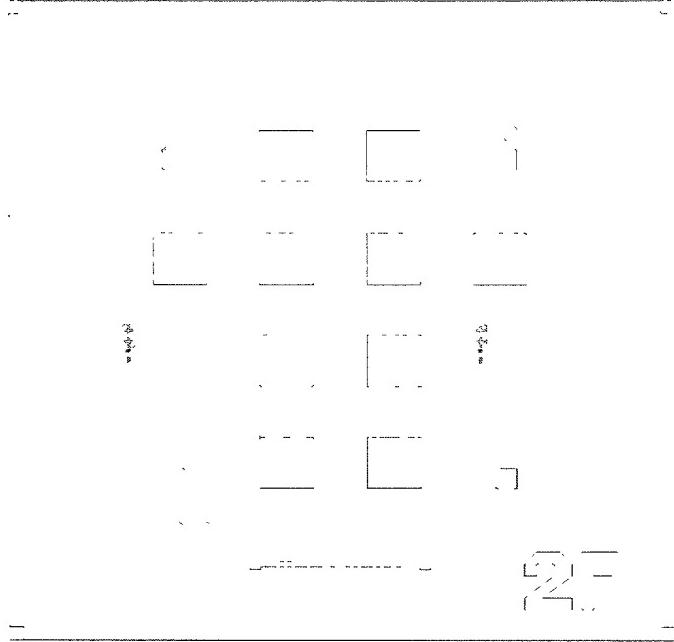


▨ Silicon Substrate

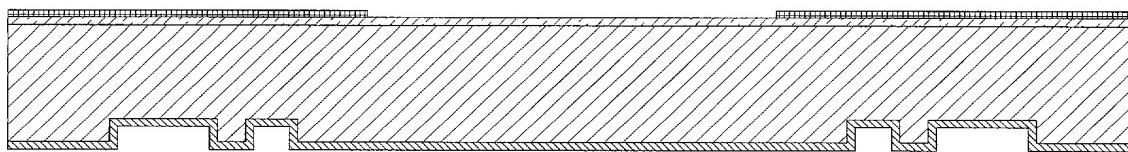
□ Silicon Nitride

▨ Aluminum Contact

***Figure 46***



***Figure 47A***

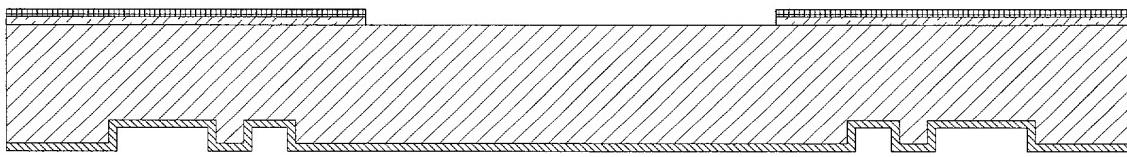


■ Silicon Substrate      ■ Photo Resists

■ Silicon Nitride

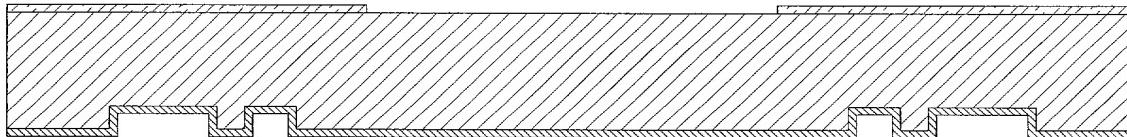
■ Aluminum Contact

***Figure 47B***



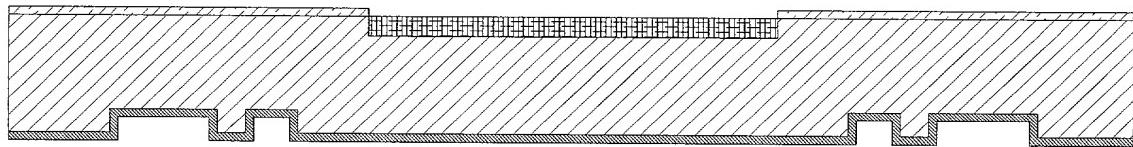
- Silicon Substrate
- ▨ Photo Resists
- ▨ Silicon Nitride
- Aluminum Contact

***Figure 48***



- Silicon Substrate
- ▨ Silicon Nitride
- Aluminum Contact

***Figure 49***



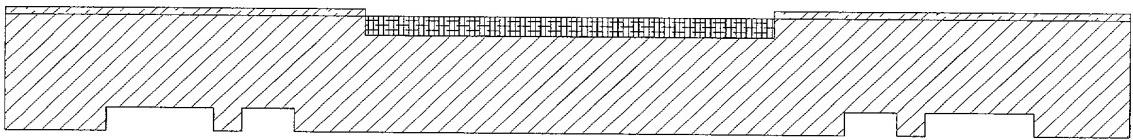
■ Silicon Substrate

■ Porous Silicon

■ Silicon Nitride

■ Aluminum Contact

***Figure 50***

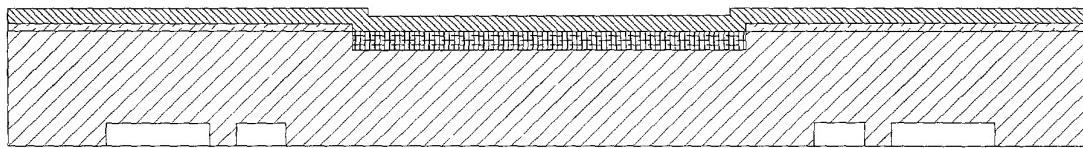


■ Silicon Substrate

■ Porous Silicon

■ Silicon Nitride

***Figure 51***



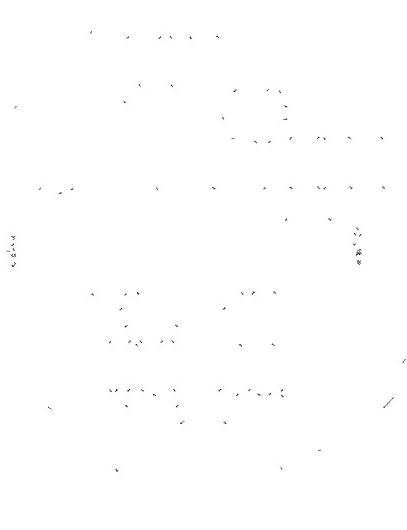
Silicon Substrate

Aluminum Contact

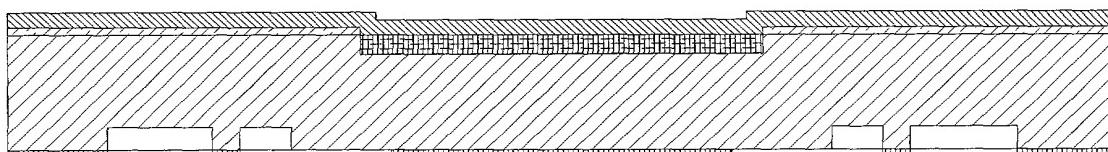
Silicon Nitride

Porous Silicon

***Figure 52***

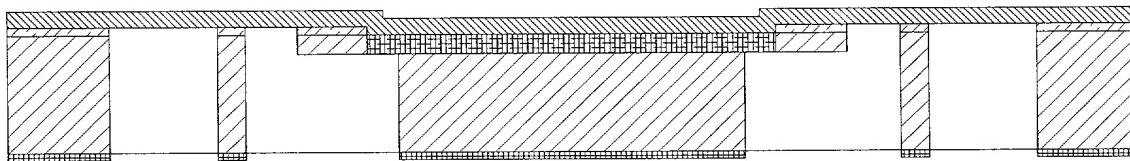


***Figure 53A***



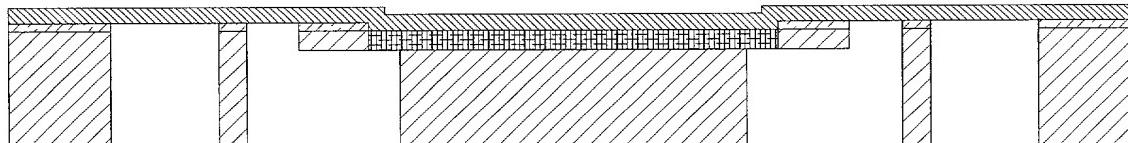
- |                   |                  |
|-------------------|------------------|
| Silicon Substrate | Aluminum Contact |
| Silicon Nitride   | Porous Silicon   |
| Photo Resists     |                  |

***Figure 53B***



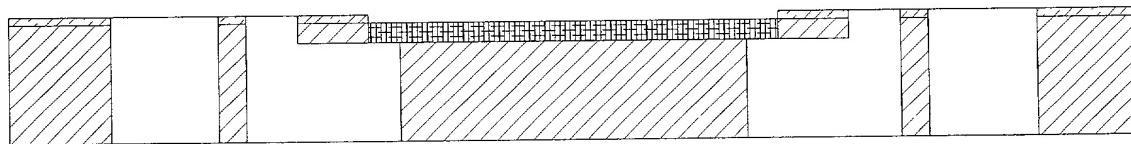
■ Silicon Substrate      ■ Aluminum Contact  
■ Silicon Nitride      ■ Porous Silicon  
■ Photo Resists

***Figure 54***



■ Silicon Substrate      ■ Aluminum Contact  
■ Silicon Nitride      ■ Porous Silicon

***Figure 55***

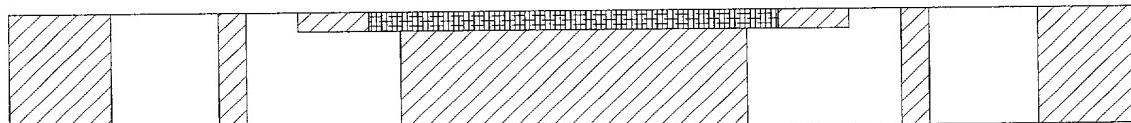


■ Silicon Substrate

■ Porous Silicon

■ Silicon Nitride

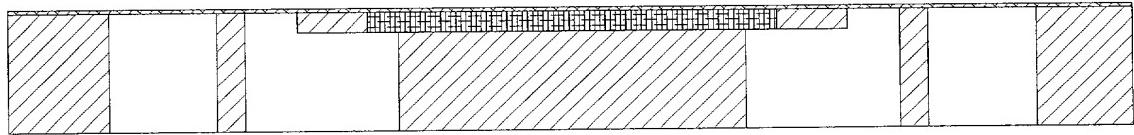
***Figure 56***



■ Silicon Substrate

■ Porous Silicon

***Figure 57***

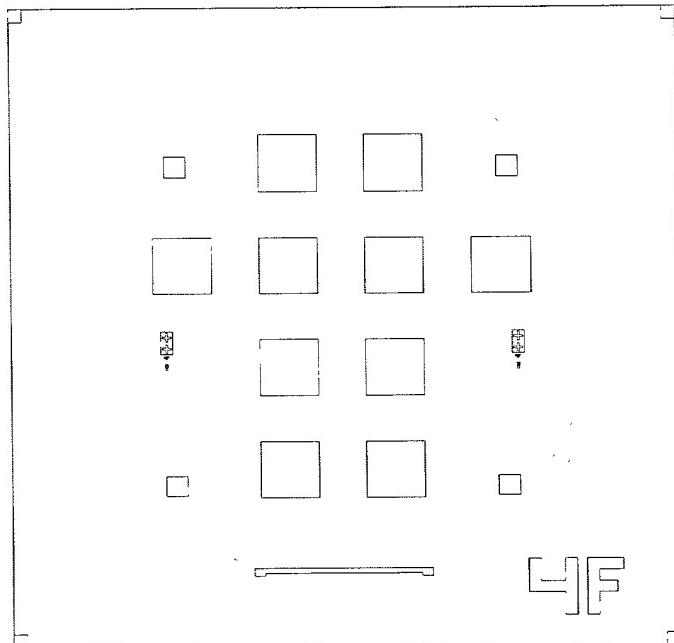


 Silicon Substrate

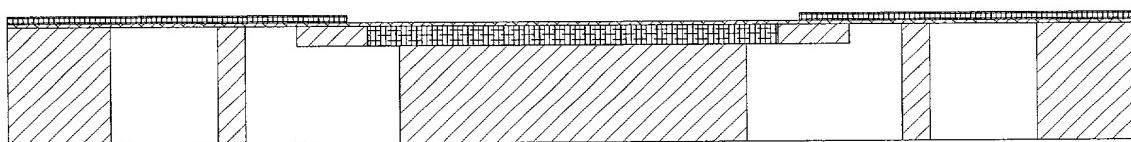
## Porous Silicon

 Metal Seed Layer

*Figure 58*



***Figure 59A***



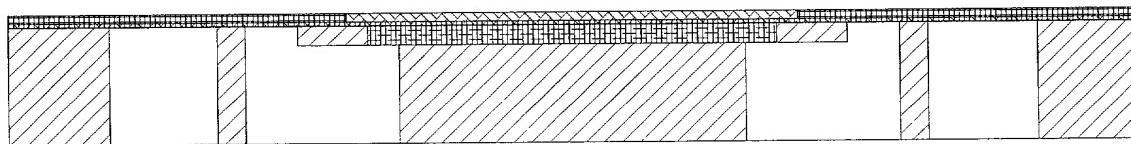
Silicon Substrate

Photo Resists

Metal Seed Layer

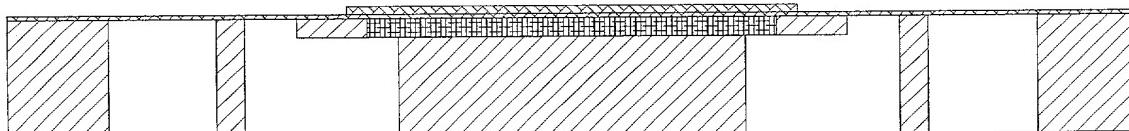
Porous Silicon

***Figure 59B***



□ Silicon Substrate      □ Photo Resists  
▨ Pd Layer      ▨ Porous Silicon

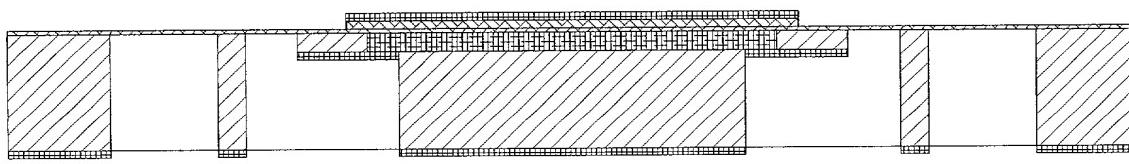
***Figure 60***



□ Silicon Substrate      □ Porous Silicon  
▨ Pd Layer

***Figure 61***

***Figure 62A***



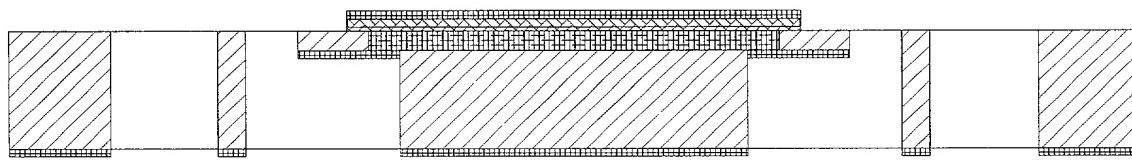
Silicon Substrate

Porous Silicon

Pd Layer

Photo Resists

***Figure 62B***



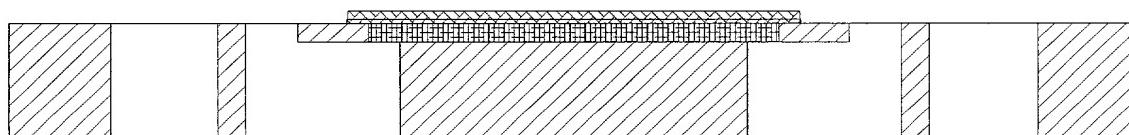
□ Silicon Substrate

■ Porous Silicon

▨ Pd Layer

▨ Photo Resists

***Figure 63***



□ Silicon Substrate

■ Porous Silicon

▨ Pd Layer

***Figure 64***

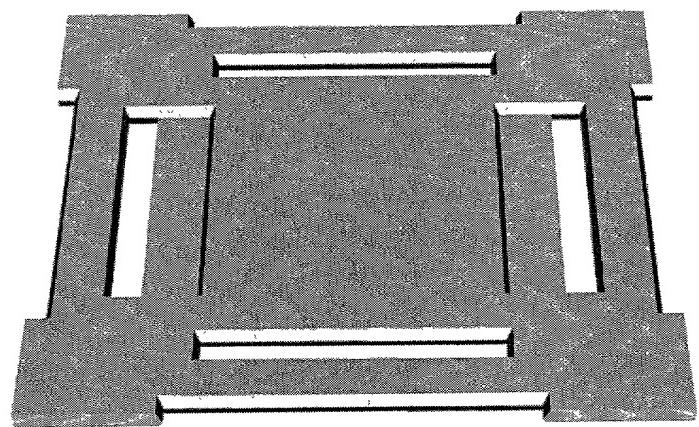


Fig. 65A

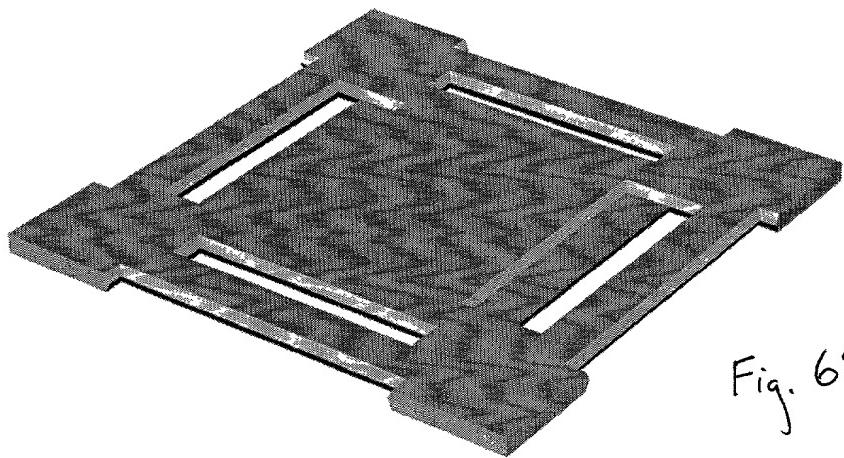


Fig. 65B

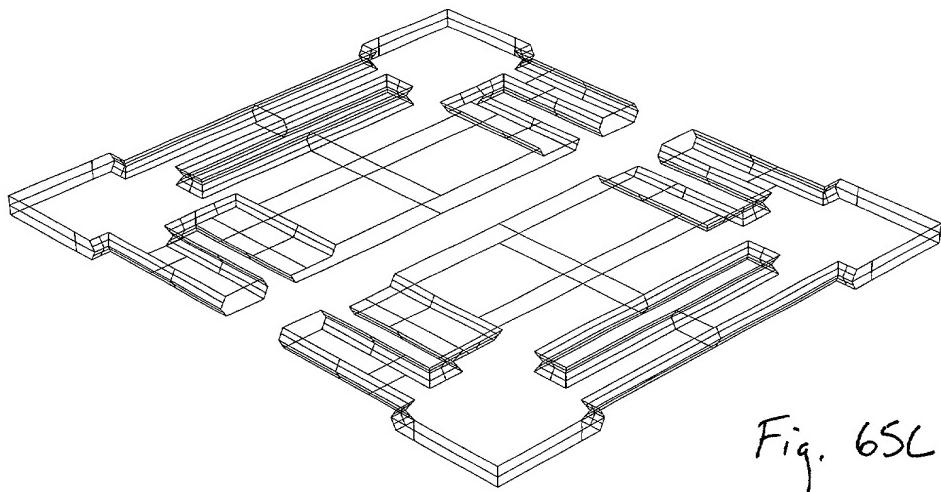


Fig. 65C